



Aviation Investigation Final Report

Location:	Wasilla, Alaska	Accident Number:	ANC22FA069
Date & Time:	August 29, 2022, 12:04 Local	Registration:	N2723P
Aircraft:	STORY CHARLES BRAD TT FOX	Aircraft Damage:	Substantial
Defining Event:	Unknown or undetermined	Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Flight test		

Analysis

According to witnesses, the airplane took off on runway 08 and then turned back toward the airport. The pilot made a radio call that he was turning downwind for landing. The accident occurred during the fifth flight of the phase 1 test flights after the pilot finished building the airplane. Witnesses heard changes in the engine rpm they described as the engine revving, going to idle, and surging. They also reported that the airplane was traveling “fast,” with pitch oscillations; the airplane approached the gravel runway in a right-wing-low turn as if it was going to land. The airplane then pitched down abruptly before striking trees about 60 to 80 ft before penetrating the side of a hangar, where it came to rest.

Data downloaded from an onboard device showed the airplane turned crosswind after takeoff then entered a right downwind for the runway. Once abeam the departure end of the runway, the airplane stopped its climb, began a descent, and turned toward the approach end of the intersecting gravel strip. The data also showed that the engine rpm changed from idle to maximum three times in the last 8 seconds of flight.

Examination of the airplane revealed no mechanical malfunctions or anomalies that would have precluded normal operation. The reason for the rpm oscillations and pitch variations could not be determined with the available information.

Given the witness statements and that the pilot was turning toward the gravel runway, it is likely that he was experiencing an issue with the airplane that could not be determined with the available information.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's inability to maintain control of the airplane for reasons that could not be determined.

Findings

Aircraft	(general) - Attain/maintain not possible
Not determined	(general) - Unknown/Not determined

Factual Information

History of Flight

Approach-VFR pattern downwind	Unknown or undetermined (Defining event)
Unknown	Collision with terr/obj (non-CFIT)

On August 29, 2022, about 1204 Alaska Daylight Time, a Charles Brad Story TT FOX amateur-built airplane, N2723P sustained substantial damage when it was involved in an accident at the Wolf Lake Airport (4AK6), Wasilla, Alaska. The pilot was fatally injured. The airplane was operated by the pilot as a Title 14 *Code of Federal Regulations* Part 91 test flight.

Family reported that the purpose of the flight was for the pilot to complete the required flight hours during the phase I testing of the amateur-built airplane. Witnesses at the airport observed the airplane departing to the south and then heard the airplane returning towards the airport. The pilot made a call on the radio saying he was on the downwind leg of the traffic pattern for landing; no other transmissions were heard from the airplane. The flight path downloaded from an onboard Dynon Skyview D1000 showed the airplane turned crosswind after takeoff then entered a right downwind for runway 08. Once abeam the departure end of the runway, the airplane stopped its climb, began a descent, and turned toward the approach end of the gravel strip, runway 02. (Figure1) Witnesses then observed the airplane flying low and fast, heading toward the gravel strip. Witnesses reported hearing changes in the engine rpm which were described as the engine revving, going to idle, and surging. They also reported the airplane was traveling “fast,” with two witnesses reporting pitch oscillations. A witness saw the airplane “abruptly pitch down as if the airplane hit something “and impacted the hangar.



Figure 1. Flight path data from the Dynon Skyview. The yellow path indicates the flight track of the accident airplane.

Pilot Information

Certificate:	Private	Age:	60,Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Unknown
Other Aircraft Rating(s):	None	Restraint Used:	Unknown
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 3 With waivers/limitations	Last FAA Medical Exam:	May 12, 2021
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	(Estimated) 140 hours (Total, all aircraft)		

The pilot was the owner and builder of the airplane. The pilot had completed 4 test flights in this airplane starting on August 21. The first and second flights were logged for 0.6 hours each. The third and fourth flights were for 1 hour each. The fourth flight was on August 27th. All flights were conducted at 4AK6.

Aircraft and Owner/Operator Information

Aircraft Make:	STORY CHARLES BRAD	Registration:	N2723P
Model/Series:	TT FOX	Aircraft Category:	Airplane
Year of Manufacture:	2022	Amateur Built:	Yes
Airworthiness Certificate:	Experimental (Special)	Serial Number:	C9404-002
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:		Certified Max Gross Wt.:	
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Rotax
ELT:		Engine Model/Series:	E-TEC 850
Registered Owner:	On file	Rated Power:	165
Operator:	On file	Operating Certificate(s) Held:	None

The pilot had started building the airplane about 3 years before and finished a couple of weeks before the accident. The Federal Aviation Administration DAR-F Inspector completed a Conformity Inspection of the airplane on August 13, 2022. A Special Airworthiness Certificate was issued on August 13, 2022. When the airplane passed this inspection, the next step was that a pilot must fly between 25-40 hours of test flights in specific non-populated areas to make sure all components are operating properly. Only after that test flight time was completed could the pilot fly the airplane with passengers on board. The airplane was in the test flight stage with about 3.2 hours of flight time completed.

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	PAAQ,233 ft msl	Distance from Accident Site:	6 Nautical Miles
Observation Time:	12:53 Local	Direction from Accident Site:	113°
Lowest Cloud Condition:	Scattered / 1500 ft AGL	Visibility	10 miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	180°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	29.49 inches Hg	Temperature/Dew Point:	15°C / 9°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Wasilla, AK	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:		Type of Airspace:	Class G

Airport Information

Airport:	WOLF LAKE 4AK6	Runway Surface Type:	
Airport Elevation:	540 ft msl	Runway Surface Condition:	Dry
Runway Used:		IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Unknown

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	1 Fatal	Latitude, Longitude:	61.637625,-149.30054

The accident was in a relatively flat, residential area next to 4AK6. All components of the airplane were located in the vicinity of the main wreckage. The airplane impacted in a nose-low attitude into the back of a hangar and came to rest inside the hangar. About 60 to 80 ft before the impact site there was evidence of an impact with a tree. The top 10 to 12 ft of the tree was

broken off and laying on the ground in the direction of the flight path. Branches and parts of the tree were found scattered between the tree, the hangar, and inside the hangar.

The airplane came to rest inside a hangar. The main fuselage was on the floor, with the right wing still attached to the airplane in the attic. The left wing was impact-separated and located outside the building. The flaperon handle was set to the 10° position. Flight control continuity was established in all flight controls with separation from impact damage.

Examination of the engine revealed that both cylinders had compression. The spark plugs were not fouled. Engine continuity was confirmed by operating the starter pull handle and watching the propeller move. The engine was a Rotax 850 engine that was designed to be used in snowmachines and was not for aircraft use. The airplane was equipped with a three-blade composite propeller. All three blades exhibited impact damage. There were no mechanical malfunctions or anomalies with the engine that were noted that would have precluded normal operation.

A Dynon Skyview system was removed from the airplane and sent for data download at the National Transportation Safety Board Recorders Laboratory. The flight data indicated that at 1203, about 8 seconds before impact, the engine rpm went from idle to max rpm 3 times. Auditory witnesses also recalled hearing the engine fluctuating rpm right before impact.

Administrative Information

Investigator In Charge (IIC): Ward, Mark

Additional Participating Persons: Curtis Martin; FAA; Anchorage, AK

Original Publish Date: November 7, 2023

Last Revision Date:

Investigation Class: [Class 3](#)

Note:

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=105826>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).